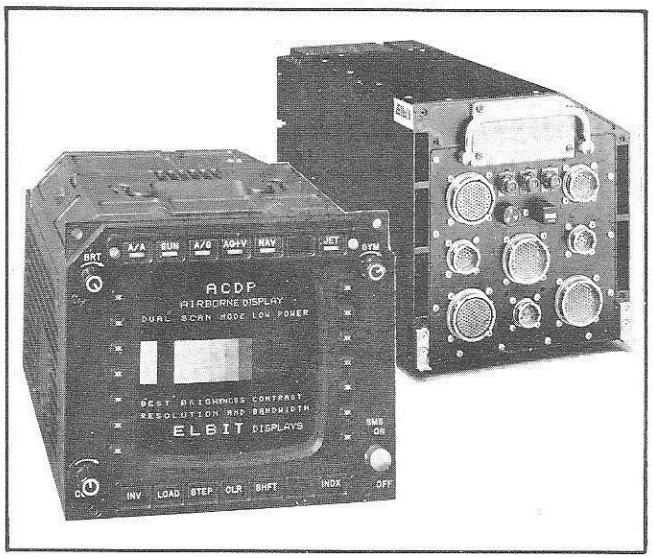
Elbit
MILITARY
PRODUCTS

SMS



STORES MANAGEMENT SYSTEM (SMS)

INTRODUCTION

The SMS is a computerized, flexible, and easy-to-operate Stores Management System.

The SMS manages weapon release with maximum efficiency, taking into account all the operational conditions and limiting factors. Its dual mode of operation ensures maximum safety from accidental weapon release and maximum mission success.

The Stores Management Computer (SMC) consists of fully redundant hardware and software, needed to achieve maximum safety and availability.

The computed data is displayed on the Armament Control and Display Panel (ACDP), a high-performance airborne multi-function display.

The system enables pre-flight performance of most of the activities connected with weapon management and release.

The pilot prepares, on the ground, several weapon release programs, as per anticipation in flight. All he need do in flight is select the proper program and the SMS will manage weapon selection and release for him, according to the limitations, priorities and data selected.

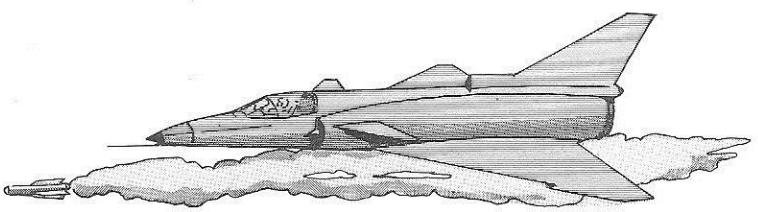
PRE-FLIGHT SELECTIONS

- WDNS master mode (A/A, A/G, Gun, Selective Jettison, and Navigation)
- Weapon delivery mode (CCIP, D/T, TOSS, Direct)
- Type of weapon to be released
- Release mode (Single, Pair, Salvo)
- Release interval
- Fuse mode (Nose, Tail, Nose and Tail)

Release program parameters can be changed without having to reenter the entire program.

The SMS replaces the following switches and selectors:

- Weapon Selector
- Fuse Selector
- Weapon Data Insertion Panel
- Gun Switch
- Missile Cool Switch
- All Store Switches
- Release Program Selectors and Switches
- Jettison Selector



SMS DISPLAYS

The pilot is provided with the following displays on the Armament Control and Display Panel (ACDP):

- Dynamic display of continuously updated weapon inventory
- Display of selected release program parameters
- Warning in case of erroneous programming, system failure, or "beyond limits" condition

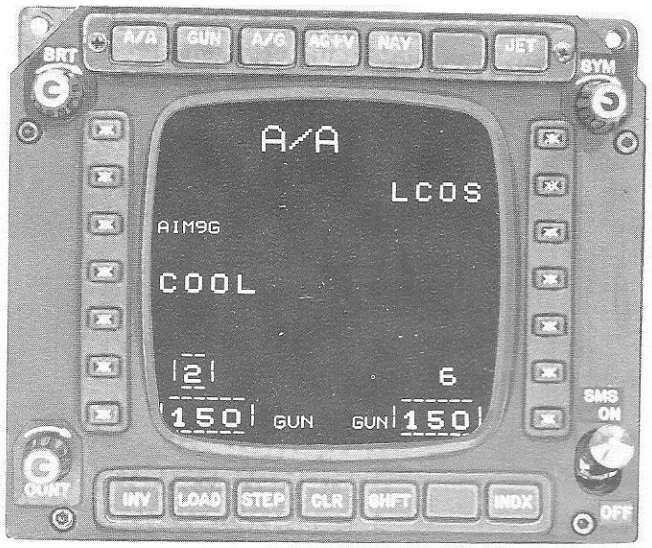
The SMS can handle "smart" weapons, display the picture generated by EO weapons on the ACDP, together with the synthetic electronic markers and symbols, and display and control their LOS, lock-on, etc.

VTR CONTROL

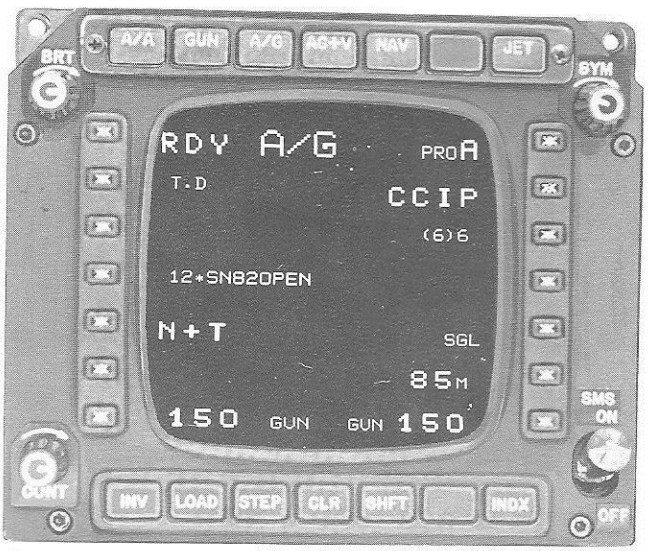
If a videotape recorder (VTR) is installed in the aircraft, it can be controlled by the SMS computer.

The VTR is activated in special events, such as Position Update, marking of targets-of-opportunity, performance of Inertial Lock, Pickle depression, etc. It tapes the TV displays of the HUD camera and the ACDP, and as such replaces the post-flight manual data copying of previous systems.

The Video Electronic Unit (VEU) is the system's video switchboard. It enables receipt of video signals from various sources, picture mixing, and generation of synthetic test patterns. The VEU is operated by the SMC.

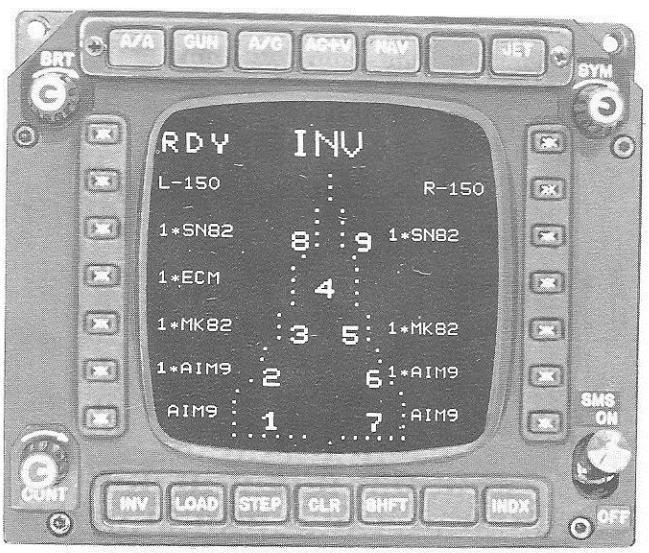


ACDP DISPLAY – AIR/AIR MODE



ACDP DISPLAY – AIR/GROUND MODE

ACDP DISPLAY – NAVIGATION MODE



ACDP DISPLAY – INVENTORY MODE

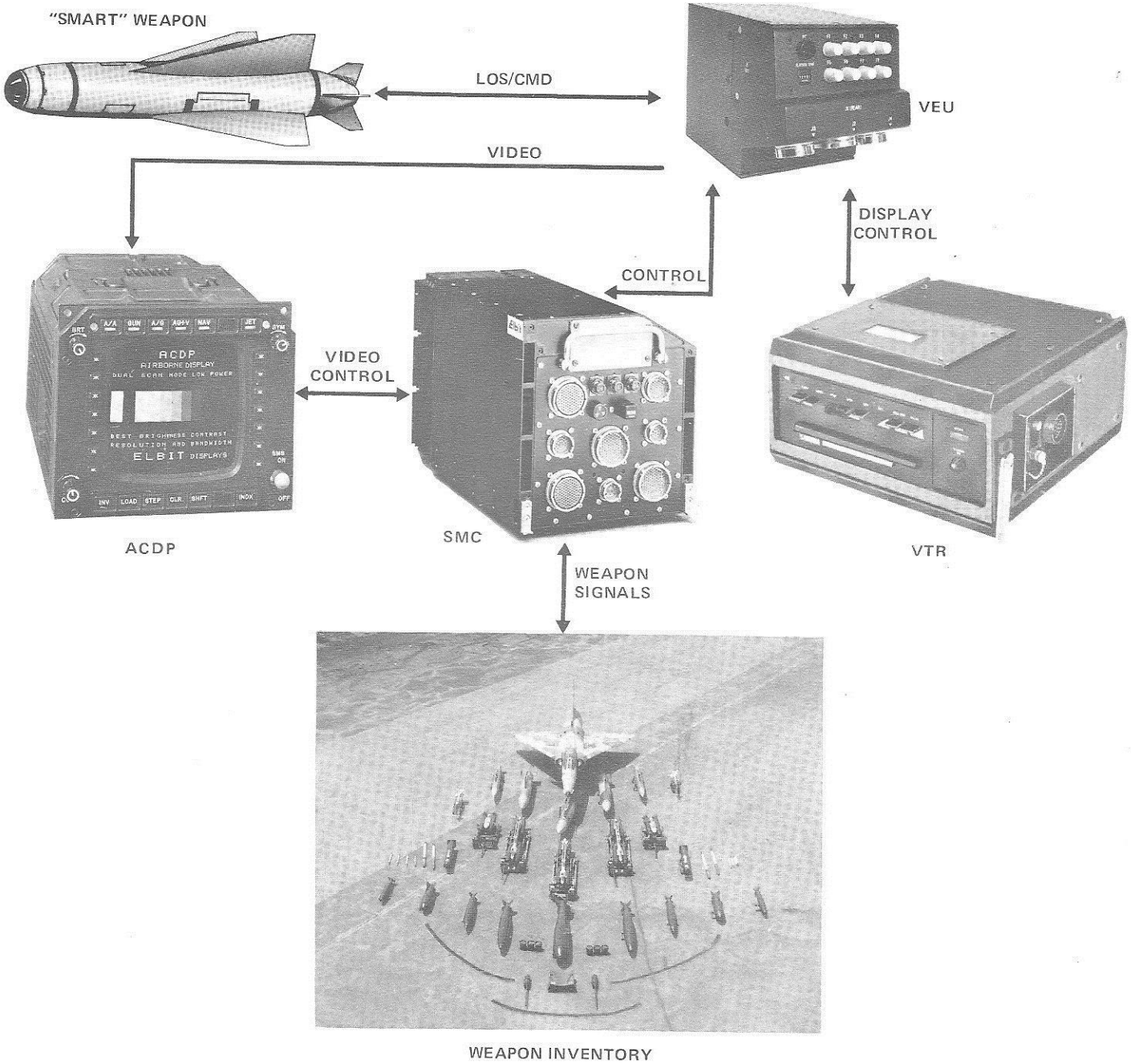
SAFETY FEATURES

- No single failure can cause an inadvertant release or result in an inability to release
- Minimized workload
- Immediate display of hazards

GROWTH POTENTIAL

- Multiprocessor based
- Memory expansion capability
- Spare computational capability

SMS BLOCK DIAGRAM



TECHNICAL DATA

Stores Management Computer

Redundancy . . . . . .One of two independent computing systems, providing full redundancy

Dual Power Supply

Memory:
- EPROM 58K
- RAM 3K
- Non-volatile RAM 1K

I/O:
- Inputs . . . . . 160 discrete
- Outputs . . . . . 120 discrete

Real-Time Clock 1kHz

Input Power 28VDC

Power Consumption 80VA

Environmental Conditions. . As per MIL-E-5400, Class IIX

Dimensions . . . . . 321 x 194 x 172 mm

Weight . . . . . .13.5 kg

Armament Control & Display Panel

Scanning . . . . . .525 or 875 lines

Bandwidth . . . . . 20 MHz

Contrast Ratio 7:1

Input Power 28VDC; 115VAC, 1Ø, 400Hz

Power Consumption 80VA

Environmental Conditions. . As per MIL-E-5400, Class I

Dimensions . . . . . 172 x 147 x 267 mm

Weight . . . . . 7 kg

ELBIT'S EXPERIENCE

- 10 years experience in avionics design, development and production (hardware and software)
- Equipment installed on A-4, F-4 and Kfir aircraft
- Design based on operational experience

The greatest care and skill, together with combat experience, assure quality and reliability.

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